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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/508,945	10/01/2004	Sumie Suda	259727US0XPCT	7750

22850 7590 08/02/2007

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EXAMINER	
YEE, DEBORAH	

ART UNIT	PAPER NUMBER
1742	

NOTIFICATION DATE	DELIVERY MODE
08/02/2007	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No.	Applicant(s)	
	10/508,945	SUDA ET AL.	
	Examiner	Art Unit	
	Deborah Yee	1742	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *14 May 2007*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *11-14 and 43-48* is/are pending in the application.

4a) Of the above claim(s) *48* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *11-14 and 43-47* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

1. Newly submitted claim 48 is directed to an invention that is independent or distinct from the invention originally claimed for the following reasons: The originally elected claims are directed to a steel wire and newly submitted claim 48 is directed to a method of using a steel to form a spring by coiling. Note that claim 48 belongs with the non-elected group II, claims 15-42 from the previous restriction dated November 27, 2006 because it is drawn to a spring, and would be separate and distinct for the reasons already stated.

2. Since applicant has received an action on the merits for the originally presented invention, this invention has been constructively elected by original presentation for prosecution on the merits. Accordingly, claim 48 is withdrawn from consideration as being directed to a non-elected invention. See 37 CFR 1.142(b) and MPEP § 821.03.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 11, 43,and 47 are rejected under 35 U.S.C. 103(a) as being unpatentable over Japanese patent 7-90495 (hereinafter JP'495).

5. The English abstract of JP'495 discloses a pearlitic steel wire having a composition with constituents whose wt% ranges overlap those recited by the claims. Also JP'495 steel contains 0.05 to 1 vol.% of carbides wherein carbide size is 0.1 μm or less and hence would suggest the carbide density of 5 particles/100 μm^2 or less wherein the carbide diameters are 0.1 μm or more as recited by claim 11 and the carbide density of 2 particles/100 μm^2 or less wherein the carbide diameters are 0.1 μm or more as recited by claim 43. Note that the overlap in range limitations establishes a prima facie case of obviousness because it would be obvious for one skilled in the art to select the claimed range limitations over the broader disclosure of the prior art since the prior art teaches similar properties wherein finer carbide size produces higher strength, see MPEP 2144.05.

6. Claims 12 to 14 and 44 to 46 are rejected under 35 U.S.C. 103(a) as being unpatentable over Japanese patent 7-90495 (hereinafter JP'495) as applied to claims 11, 43,and 47 above, and further in view of Japanese patent 405320827 (hereinafter JP'827).

7. JP'495 steel closely meets the claimed composition except fails to include Ni as an alloying constituent. JP'827 in paragraph [0018] teaches an analogous steel wire alloy which includes 0.1 to 2% Ni and /or 0.1 to 0.5% Mo to further enhance hardenability and toughness. Since such properties are desired and sought for Aoki and Matsumoto steel wire, then it would an obvious modification for one skilled in the art to further incorporate small amounts of Ni and/or Mo to enhance steel wire properties and produce no more than the known and expected effect from such an addition.

8. Claims 11 to14 and 43 to 46 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent 6,224,686 (hereinafter AOKI) or US Patent 5, 904,787 (hereinafter MATSUMOTO) cited by applicant in IDS dated June 7, 2005 alone or in view of Japanese patent 7-90495 (hereinafter JP'495).

Response to Arguments

9. Applicant's arguments filed May 14, 2007 have been fully considered but they are not persuasive

10 Applicant argued that prior art teaches a quenched and oil-tempered wire having a martensitic structure whereas present invention is directed to a hard-drawn wire having a ferritic or pearlitic structure. It is the examiner's position that even though the process of making is difference, such would not be a patentable difference since in a product-by-process claim, the product determines patentability per se and not the process of making. Moreover, the different microstructures would not be a patentable distinction since the present invention ferrite and/or pearlite microstructure is not actively recited by the claims.

11. Also the properties disclosed in figures 1 to 3 in applicant's remarks would be expected by prior art since the carbide density limitation are closely met. Note AOKI and MATSUMOTO steel, each have a carbide density wherein the number of carbide particles having a diameter of 0.05 μm or more is 5 / μm^2 or less and is closely within the present invention carbide density wherein the number of carbide particles having a

diameter of 0.1 μm or more is 5 particles /100 μm^2 or less as recited by claim 11 and 2 particles/100 μm^2 or less as recited by claim 43.

Conclusion

12. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Deborah Yee whose telephone number is 571-272-1253. The examiner can normally be reached on monday-friday 6:00am-2: 30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Roy King can be reached on 571-272-1244. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Deborah Yee
Primary Examiner
Art Unit 1742

DY